

4



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,703	12/28/2001	Kwang-Hyun Shim	P67498US0	3944

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MAYER, BROWN, ROWE & MAW LLP  
1909 K STREET, N.W.  
WASHINGTON, DC 20006

EXAMINER

PWU, JEFFREY C

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/028,703

Applicant(s)

SHIM ET AL.

Examiner

Jeffrey C. Pwu

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheng (U.S. 6,396,509).

Cheng teaches claims:

1. A method for transmitting state information in a client-server based networked virtual environment in which a plurality of client computers are connected to a server computer through a network, comprising the steps of:

- measuring distances between a shared object and client avatars corresponding to the client computers in the client-server based networked virtual environment (col.11, line 63-col.12, line 14; "As an example, the disposition of a resident object B relative to A is measured by the distance .vertline.AB.vertline., while its disposition relative to AA" is measured by angle .beta. (angle BAA)"."; col.12, lines 50-col.19, line 21 discloses distance measuring between shared objects and client avatars; also see R-division and beta division computing); and

Art Unit: 2143

- adjusting transmission rates of state renewal information from the server computer to the client computers according to the measured distances. (claim 4, "wherein the priority component determines priority using one or more predetermined modifying parameters, the participant being enabled to revise, characterize, calibrate or otherwise alter one or more of such modifying parameters.")

2. The method of claim 1, wherein said distance measuring step is selectively performed according to a result of determination after determining whether an event occurs by periodically checking a timer for generating an event message, further comprising the step of transmitting state renewal information to the client computers through the network on the basis of the adjusted transmission rate. (col.12, lines 50- col.19, line 21

3. The method of claim 1, wherein said transmission rate adjusting step comprises the steps of, calculating periods of occurrence of an event of the timer on the basis of the measured distances, and replacing a period of occurrence of an event of the timer with the calculated periods. (claim 4, "wherein the priority component determines priority using one or more predetermined modifying parameters, the participant being enabled to revise, characterize, calibrate or otherwise alter one or more of such modifying parameters.")

4. The method of claim 3, wherein said event occurrence period calculating step is performed in such a way that as the measured distance is decreased, the period of

Art Unit: 2143

occurrence of an event is calculated to be shorter, thereby increasing the transmission rate of state renewal information for the corresponding client avatar. ("For illustration, rendering of video is assumed to be controlled, as to resolution, by structure R2 and, as to frame rate, by structure C. Without considering avatar A.sub.4 (it is outside the vision cone), the respective, sorted structures are: (49) [R2 (A.sub.3 -9)(A.sub.1 0)(A.sub.2 1)(A.sub.5 2)] (50) [C(A.sub.3 -10)(A.sub.5 0)(A.sub.1 2)(A.sub.2 2)] (226) Accordingly, avatar A.sub.3 is assigned both the highest resolution and the highest frame rate. Avatar A.sub.1 is assigned the next level of resolution, followed by A.sub.2, then A.sub.5. Avatar A.sub.5 is assigned the next level of frame rate. However, assignment of the next levels of frame rate is subject to mediation in that A.sub.1 and A.sub.2 have the same priority number in structure C. As previously stated, various mediation mechanisms can be implemented. As an example, a mechanism can employ the concept structure in mediating such assignments.")

5. A method for transmitting state information in a client-server based networked virtual environment in which a plurality of client computers are connected to a server computer through a network, comprising the steps of:

- checking whether a shared object varies in its state, and calculating an error value between a varied actual state value and a value predicted by a corresponding client computer if the shared object is varied in state; (col.11, line 63-col.12, line 14)
- measuring a distance between the shared object and a client avatar corresponding to the client computer using coordinate values;

calculating a dead reckoning threshold value with the measured distance taken into account; and (claim 4, "wherein the priority component determines priority using one or more predetermined modifying parameters, the participant being enabled to revise, characterize, calibrate or otherwise alter one or more of such modifying parameters.")

- comparing the calculated error value with the calculated threshold value, and selectively transmitting state renewal information according to a result of the comparison. (compare figs. 4-7)

6. The method of claim 5, wherein said threshold value calculating step is performed in such a way that as the measured distance is decreased, the threshold value is calculated to be smaller, thereby increasing the transmission rate of state renewal information for the corresponding client avatar. ("For illustration, rendering of video is assumed to be controlled, as to resolution, by structure R2 and, as to frame rate, by structure C. Without considering avatar A.sub.4 (it is outside the vision cone), the respective, sorted structures are: (49) [R2 (A.sub.3 -9)(A.sub.1 0)(A.sub.2 1)(A.sub.5 2)] (50) [C(A.sub.3 -10)(A.sub.5 0)(A.sub.1 2)(A.sub.2 2)] (226) Accordingly, avatar A.sub.3 is assigned both the highest resolution and the highest frame rate. Avatar A.sub.1 is assigned the next level of resolution, followed by A.sub.2, then A.sub.5. Avatar A.sub.5 is assigned the next level of frame rate. However, assignment of the next levels of frame rate is subject to mediation in that A.sub.1 and A.sub.2 have the same priority number in structure C. As previously stated, various

Art Unit: 2143

mediation mechanisms can be implemented. As an example, a mechanism can employ the concept structure in mediating such assignments.”)

***Response to Arguments***

3. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Pwu whose telephone number is 571-272-6798.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



8/5/05

JEFFREY PWU  
PRIMARY EXAMINER